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Cornell Countryman

January, 1957

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U.S. DEPARTMENT OF AGRICULTURE

WINTER CHORES – CUTTING SUGAR WOOD

Where visions grace the sky, Freedom shall bless the land

OLD GLORY is a set of principles, a covenant of human rights, rippling in the breeze. So long as the great body of Americans respect the traditions and the principles for which Old Glory stands—so long shall the flag be a vision of hope, a shield against the storms.

VISIONS are elusive sometimes. But they have a way of coming down to earth. This thing called *soil conservation on the land* was once a vision—little more than the seed of an idea, the idea that farmers could work together to solve their mutual problems. The seed proved to be remarkably viable, for the soil conservation district idea has settled down like a protective blanket over our good earth.

There is more than physical resemblance between a contour-stripped field and the red and white stripes of Old Glory. The soil conservation district embodies the very essence of the rights and freedoms for which our flag stands. Cherishing those rights and freedoms, farmers have organized soil conservation districts that are of *local people,* by *local people,* for *local people.*

A soil conservation district is composed of local people who see their own problems and solve them, who see their own responsibilities and shoulder them. They are local people doing that which they should do, voluntarily, with no infringement of rights and liberties, with scarcely a law, rule, regulation, or tax. The soil conservation district, in action, is literally a bit of the freedom of enterprise that made America a land of opportunity and abundance.

Soil improvement, through good land use, is a modern vision, a new frontier of rural America.

JOHN DEERE • MOLINE • ILLINOIS

Cornell Countryman

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ATTENTION ALL CO-EDS!

January is the month of sales and, not to be outdone, our Co-ed Shop is having one

Skirts, sweaters, and blouses will be on sale all of this month. They're all fine quality, regular stock, which must be moved to make room for Spring clothes.

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From the Editor's Desk

What the Countryman hopes to see in '57

In Congress

Overall river valley development—In his State of the Union address, President Eisenhower stressed the need for overall development of our rivers, rather than the piecemeal control practices of a number of groups wanting water from the same river. The flood and drought threat, as well as the waste resulting from this improper management of water must be corrected by federal, state, and local partnership in unified river development projects.

Further action on the Niagara power issue—While Canada enjoys the benefits of harnessing the Niagara River for its power, the United States must wait until numerous political angles are smoothed out, and private utility companies are finally satisfied. Beaten around for literally years, this controversial legislation should have immediate debate and action.

Increased appropriation for agricultural research—The most recent expenditure of about 100 million dollors for agricultural research is substantially higher than in other years, but still not high enough to keep pace with our leaping advance in technology, and their resulting need for more research. The President's Bipartisan Committee on Increased Industrial Uses of Agricultural Products, which has been studying the potential uses of various crops, is expected to ask Congress for as much as 340 million dollars.

In the State Legislature

Approval of Governor Harriman's recommendations concerning education.

—Passage of a $250 million bond issue for expansion of the State University of New York.

—Increase in the number of state scholarships to include 5% of high school graduates instead of the present 3.5%.

Provisions for more wildlife preserves and pleasure areas—Larger numbers of hunters, fishermen, and visitors to state parks and forest preserves necessitates more fish hatcheries, reforested areas, game preserves, and wetland areas for the development of waterfowl.

In Ag-Domecon Council

Opening of Mann Library on Sunday afternoons—Council's committee working toward this goal hopes to get results by April.

A realistic "Straight to the Country Day"—"This is a cow with a glass panel in its side" exhibits have lost their usefulness lately. We don't want the lower campus students to look at our exhibits and say, "How quaint." We want them to realize the value of agriculture to them. This can only be accomplished by more thorough and careful planning of our exhibits.

Appraisal and re-organization of Ag-Hec Day—It has been pointed out that our annual fun day is failing to interest enough upper campus students. A change in the type and scope of events offered, and in the publicity and organization will result in more financial profit, and more fun for a greater number of students.

An Upper Campus Activities Fair—Suggested by Ag-Dom, but as yet only an idea, would acquaint Ag and Home Ec students with their own campus' activities, and prevent them from getting lost in the bananza of rather glamorous lower campus organizations. Perhaps this way, 4-H and the *Cornell Countryman* will not be drowned by the blasts of the "Rally, Rally, Rally," Committee, or overshadowed by the *Cornell Daily Sun.*

Around the Upper Quad

BETWEEN prelims, last minute Christmas shopping, and trying to wangle a way to cut those Saturday classes before Christmas, students on the upper campus have been active during December. The predominant activity was Christmas parties. However, despite the post-Christmas lull, some very interesting speakers and projects are being sponsored by the various clubs.

4-H CLUB

The 4-H Club celebrated the Christmas season with a party for all club members. Their evening included caroling, dancing, and games. At present, they are in the process of revising their constitution, which will be voted upon in the near future.

PRE-VETERINARY SOCIETY

"Veterinary Medicine in India," was the topic of a speech given by Dr. Singh to the Pre-Vet Club. The members were also recently entertained by Dr. Leonard from the Small Animal Clinic. He showed films of various small animals.

BACAMIA

On January 16, Dr. Gillespie of the School of Veterinary Medicine spoke to Bacamia. Club members are presently working on their display for Farm and Home Week.

CONSERVATION CLUB

The members of the Conservation Club are also working on their display for Farm and Home Week (which will include live animals). The Conservation Club is laying plans for its project of deer surveying to be held during February and early March. The purpose of this project is to learn more about the habits and customs of deer. At this time of year, these animals go to the southwest hills for food. The Conservation Club will go to Turkey Hill and Newfield in order to take both aerial and foot surveys. Members plan to rent a plane for this excursion. They will take pictures and gather such information as the number of deer that migrated and the exact location of their congregation. Other members of the club will go on foot and by car.

FLORICULTURE CLUB

At the last meeting of the Floriculture Club, Professorsor Curtiss from the floriculture department spoke on "The Effect of Winter Plants." He showed slides to illustrate the effect of evergreen and other winter plants in the landscape during this time of the year. This was followed by the club's annual Christmas party. At present, the members are beginning work on their display for Straight to the Country Day. Their exhibit will be a plastic greenhouse in which they will feature the growth of orchids from microscopic seed to the luscious flower one sees in the florist shop window. Professor Burkmyer of the art department visited the Floriculture Club on January 9 and showed slides and sketches of her recent trip to Europe.

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Foreign Students View Suez Crisis

By MARTIN BOBROWSKY '60

Left to right: Michael Burns '60 of Canada; Emanuel Nyarko '60 from the Gold Coast and Martin Oweren '60 of Nigeria. These men are studying general agriculture.

Our University representation reveals a cross section of individual opinion.

THE university is often talked of as a community, as the world even, in miniature. To this, the foreign students lend the new flavor of their cultures, and more importantly, they add new ideas and viewpoints to ones we are familiar with. It was in this spirit that the *Countryman* interviewed foreign students of the upper campus about their reactions to the Middle East crisis. These opinions were sought because of the welcomed uniqueness of the foreign student's position.

The students we interviewed at greatest length were: Edward Bonnie—Buffoe '59 of the Gold Coast (called Bonnie), who is an agronomy major; Michael Burns '60, of Canada; Emanuel Nyarko '60 from the Gold Coast, and Martin Oweren '60 of Nigeria, who are all in general ag.

IN discussing the beginnings of the crisis, each one stressed that the opinions were primarily his, rather than those of his country, yet most of the foreign students agreed that the build-up of tension had its exploding point in the nationalization of the Suez Canal. Although they tended to separate the Arab-Israeli "blow-ups" from the Suez crisis, their impression was that the whole area has been in ferment for quite some time: Michael Burns traced the problem to the point where Nasser first came into power.

Describing the Anglo-French action, Martin said that although the nationalization of the canal provoked the Suez invasion, he was convinced that a reaction to this extent was not justified. While Bonnie and Emanuel used the word "aggression" to describe the action, Mike, from Canada, called the act a mistake, perhaps the most serious mistake.

IN fact, they all agreed that England and France lost by their military action in Suez—not only among Afro-Asian nations, but even in Europe and North America. "They lost prestige, and now they will pay for their moral wrong by economic chaos and oil shortages." Egypt, it was felt, lost a large supply of arms to the Israelis, but was not guilty of aggression in this instance. As for Israel, "if she did not lose, she certainly did not gain." But she did show military superiority over Egypt again.

There were indications that the students considered Nasser a power of prime influence in the area. Usually when they referred to Egypt, they said "Nasser." Martin Oweren of Nigeria put it this way: "I don't want to imply that Nasser is a dictator, but he *is* giving vent to the emotions of Egyptians and all Arabs."

YET, the three boys from Africa all stressed the point that Nasser had the right to nationalize the canal. Bonnie explained, "If I have a property, why should I allow somebody else to control it? While Egypt should allow all countries to pass through the canal, it is still Nasser's right to decide whether its supervision should be international or strictly Egyptian. England and France must forget their plans for controlling the Suez. Bullying tactics will get them nowhere."

When I asked this question, "What is the very first thing which must be done as the beginning of a solution," I heard these answers: Bonnie strongly insisted that Egypt must be compensated for all damages before a full solution could be worked out. Emanuel, however, felt that the canal must first be cleared. He and Martin both agreed that the creation of the U.N. police force was a wise step. Herb, on the other hand, held that the establishment of a canal zone and the internationalization of the control of Suez must first be agreed on and then quickly enacted.

(*turn to page 13*)

By ELIZABETH B. TVETER '59

Small artificial marshes like the one above are providing a good water habitat for Mallard ducks and other types of wildlife.

Fewer Swamps=Less Wildlife

WITH today's rapidly expanding economy, and the resulting increased demand for land, many of our vital wildlife areas are endangered. It is unfortunate that more legislators do not appreciate the fact that all their protection of waterfowl from indiscriminate killing, is useless if they do not at the same time protect their natural habitat.

Swamps, marshes, bogs, and ponds (know collectively as "wetlands"), are one of the most important types of wildlife habitat in North America. Especially necessary as breeding and resting grounds for native and migratory waterfowl, these areas also provide food and cover for at least fifty different species of mammals (both game and fur bearers) and for many other birds.

But ever since colonial days, men, driven by the pioneer instinct to reclaim as much land as possible, have been systematically reducing our wetland acreage until it now has reached a critical stage. This destruction not only results in loss to waterfowl, but it forces them into narrower flight paths, decreases hunting opportunities and causes greater spread of disease due to the closer concetnrations of the birds.

There are many reasons other than protection of wildlife, however, for preventing destruction of wetlands and for creating new ones. They are known to be useful to farmers in the following ways:

- storing ground water
- retaining surface water
- stabilizing runoff
- preventing downstream flooding
- creating fire breaks

IT will often be found, on close observation, that the money spent in draining wetlands could better be used for more effective soil conservation methods on existing cropland. And besides benefiting from wildlife, one can often derive economic gain by producing such crops as: wild rice, marsh hay, blueberries and cranberries. In addition, attractive sites can be rented to sportsmen.

The problem wouldn't exist ordinarily, since most farmers couldn't even afford to drain their wetlands, but the U.S. Department of Agriculture actually offers generous subsidies to encourage this activity. Since 1946, some 27 million acres have been added to an existing surplus production at the taxpayers' expense. In this way, some farmers are paid to put more soil into production while the Soil Bank Program, administered by the same department, is simultaneously paying other farmers to take their land out of production, thus alleviating our surplus problem. Such contradictory policies are causing conflict between the Department of Agriculture and Fish and Wildlife Service.

This situation is particularly acute in the Mid-west, where there is now an enormous deficiency in wetland acreage needed to accommodate native flocks and many migratory birds, both of which are now forced to cross the north central states without stopping.

But this problem is not confined to the Mid-west. All along the Atlantic coast and inland, many of our most important wetlands are seriously threatened not by agriculture but by suburban and industrial development. This is especially true in New York where about 90% of our remaining wetlands lie in endangered areas.

Cover and feed encourage wildlife to live in swamps. Below cattails protect a nest of young Least Bitterns.

MARSHES along the Ontario Lake, and St. Lawrence region for instance, will probably suffer a lot from the Seaway construction. A project to deepen the channel of the Hudson

(*turn to page 14*)

Farming the Sea

Oceanographic research shows the sea to be an additional food source for the tables of the world.

BY JOHN G. CROWE '57

EVERY day we must make room for 70,000 extra mouths at the dinner tables around the world. We are now at a stage similar to that in Columbus' time when population was controlled by famine and pestilence. Relief came with the discovery of new worlds. The ever prolific humans could be fed simply by opening up new lands. But today we cannot roll back our boundaries to meet our needs. And we cannot rely on technology to perpetually increase the production of lands under cultivation.

The vast sea comprising 70 percent of the earth's surface, gives promise of many new resources. In it dwell the world's largest animals and tallest plants. In fact 90 percent of the world's vegetation is bathed in this natural nutrient solution. If the immense volume of the sea could be drawn into a thread one square mile thick, it would stretch three and a half times the distance to the sun. From its waters man catches 20 million tons of fish a year; yet much more could be had for the taking.

FISH is a high protein food containing enough vitamins, minerals, and fats to equal in nutrient value the finest meats produced on land. And, the consumer pays less for it. It takes only half the man-hours to get fish on the dock as it takes to produce the same weight of cattle and deliver it to the slaughter house. Fish would make an ideal food for the two-thirds of the world's people who are failing to get their minimum protein requirements. The reason it is not already used more exclusively is that many people in the protein deficient countries dislike marine food.

The most immediate means of making more food available from the sea is through better use of existing resources. Many of the present fisheries could be considerably expanded without diminishing returns. There are many which are underfished or not used at all.

"Is there a possibility that man could maintain herds of fish and grow crops of seaweed or plankton in the sea similar to the way he keeps cattle and harvests crops on land?" This was the question put to Professor John Barlow, who instructs classes in oceanography at Cornell. He said that much research was being done in this but my illustration seemed a little farfetched. "However," he admitted, "oysters have been harvested from the sea for thousands of year." It seems this practice has become so specialized that different breeds are interbred to develop better strains.

THE oyster begins life as an egg in a seeding ground, which is an area plentiful in oysters and naturally favorable for egg development. Soon it becomes a larva and attaches itself to a handy stone or shell. Before long it is moved from the seeding ground to a special growing area where the water is nutritious and free from predators. In the course of its life the oyster may be moved to several growing areas, each of which gives a little something extra to make it a definitely superior oyster. In France, where the culture is at its height, the oysters are sometimes moved to shallow inland pools. In these pools, called claires, the oysters fatten on rich algae water, becoming plump morsels of just the right color and flavor.

It is doubtful if this could be done in the sea with other fish, as few species are so obliging as to stay in one place. However, it is possible that cultivation of fish in inland waters could become a valuable source of meat. Few people realized that 19 percent of the world's fish harvest is caught in inland waters. Ponds can produce more meat on an acre for acre basis than land can produce beef. To achieve the best results it is necessary to fertilize, and keep a proper balance between omniverous and vegetable feeding fish.

COULD we someday harvest the ocean's vast plant life? Seaweed has been used as cattle feed in Europe and is eaten in limited amounts in Japan, but it makes up a relatively small part of the ocean's plant life, so its potential seems limited. It is microscopic plankton growing at three tons to the acre that might eventually be used for human consumption. The chief attration of plankton is its abundance. However, like land plants, it is a lower quality food than meat products. Harvesting the plankton is the problem. During World War II England tried sifting plankton with nets to help relieve the urgent food problem. What didn't filter through would clog the nets before there was much of a catch. Research in harvesting and marketing techniques will be necessary before plankton can be sold in the local supermarket.

The resources of the sea, just like the "unlimited" herds of buffalo that once inhabited the American plains, are really limited. The oceans are not the final answer to the world's empty stomach. But if wisely used, they can raise the quality of diets in poorer countries, and help bulwark the increasing tide of population.

COLLEGE OF AGRICULTURE

COLLEGE OF AGRICULTURE

Students wait expectantly, above, as their class of Dorset sheep is judged. John Wagner, right, champion swine showman of the 1956 Student Livestock show, with a prize Berkshire hog.

This Show Bridges the Gap

The Student Livestock Show is one where the interests of both rural and city aggies meet

By EDWARD L. RAZINSKY '60

THE complaint has been voiced that activities in the College of Agriculture do not satisfy all agriculture students. There are, however, some activities which do combine farm living with urban interests. One of these occurs during Farm and Home Week. The Cornell Round-up Club sponsors a livestock show, in which various types of farm animals are fitted by participants, and judged for general appearance.

The boy from the Bronx would undoubtedly respond, "Very nice. Call again sometime!" and he has every right to say this, but *why* does he? If the reason is a pure dislike of animals, he would be out of place in a livestock show. But if social pressure is hampering him, it need not.

This is a showing of farm animals, but it may be considered just as urban as a dog show. The principle is the same. Both the qualities of the animal and the ability of its handler to control it are judged.

Now, farm aggies, for the most part, enjoy working with animals. They have grown up in a farm atmosphere and they derive pleasure from rural activities. Immediately, the city aggie might think it would be fun to enter the show, but a farm reared boy would probably have so much of an edge over him that there would be no contest. The fact is that previous experience does not necessarily determine the outcome, because inexperienced people are given the training needed to qualify them. Also, the person who puts time into a project will progress faster than the one who has the experience and does nothing.

THE show is organized into five main divisions: dairy, beef, sheep, swine, and horses. Each of the divisions are broken down into smaller classes according to breed and age. At the beginning of February, each interested party chooses a main division and then draws a slip of paper which names the animal to be fitted. Applicants start work on their animals at the start of the second term.

The nature of this work is brushing, clipping, and generally beautifying the animal. Specific details will be supplied by supervisors who will demonstrate every step and give instruction where needed. Previous knowledge of the structure of a cow, or even a barn, is not necessary.

The amount of time put in depends on the ambition of the individual. At first, two or three hours a week will probably be enough. During the final weeks, more time is required but here again the individual may spend as much time in preparation as he thinks he needs to win. It is his project and his pride is at stake.

For information concerning details, call Jerry Coyne, Gary Stewart, or Tom Johnson, the superintendents of the show. March 23 is the date, and at this time the winners are picked. There is a Grand Champion in each main division and winners in each subdivision. The chance of winning a prize is just as good for someone who is not in the Agriculture College. A few years ago, a girl from the arts school was the Grand Champion hog pretty-upper.

IT makes no difference who wins. If each party would at least try to understand the viewpoint of the other, and attempt to work together in projects like the Livestock Show, there wouldn't be "city aggies" and "country aggies," but one solid body of students representing the New York State College of Agriculture.

Agricultural Books in Review

After finals are over, why not relax and read these books?

By PETER B. CASGRAIN '59 and NORMA J. RUEBMAN '60

Rude Rural Rhymes

O long ago, on eon space
There swam in some warm oozy place,
The parent of the human race.
He lived within a mud hole smelly,
He had no bones, his flesh was jelly.
But something in that bit of goo
Kept urging "There's a chance for you."
So life flowed down through countless ages
In many types and many stages,
Still pressing on to bridge the chasm
'Twixt men and one-celled protoplasm,
Until those chunks of jiffy jellum
Had cerebrum and cerebellum."

Typical of his earthly humor is the excerpt from Bob Adams' poem, "Evolution," presented above. Taken from his collection of poems, *Rude Rural Rhymes,* this is only one of many Adams verses covering rather odd subjects from "In Praise of Plumbing" to "Nobody Loves the Dentist." By no means a recent publication, the book still retains the humor it provided for the reporter who reviewed it in the April, 1927 issue of the *Countryman.* At that time, *Rude Rural Rhymes* was described as a "book of whimsical rhymes dealing with agriculture and country life written by R. M. 'Bob' Adams", who was then assistant Extension Professor of Vegetable Gardening in the New York State College of Agriculture.

At the time he wrote these verses, it was not Adams' purpose merely to entertain his readers. He also had them serve as educational devices to provide his rural readers with more knowledge and instill them with new ideas, such as in conservation.

"O Woodman spare that tree,
Refrain from further hacks,
And do not swing and sling so free
Yon double-bitted ax,
But lend a listening ear to me
And let your arm relax.
Our wood supply is growing scant—
We should not chop unless we plant."

The rhymes of Bob Adams live on to furnish light, humorous reading, still warranting many a chuckle at his droll versification. Both *Rude Rural Rhymes* and another collection of his poems, *The Old Timer,* can be obtained in Mann Library.

Ye Old Farmer's Almanac

IF you have occasion to plant corn kernels, follow this rule:

"One for the blackbird,
One for the crow,
One for the cutworm,
And two to grow."

But if you're not interested in planting corn, try a mushroom recipe. Add wine or heat three tablespoons brandy, ignite and pour over mushrooms to serve flaming." This advice is typical of the old-fashioned charm of the 1957 Farmer's Almanac.

The Almanac has a language of its own, complete with signs of the Zodiac and symbols for the principal planets. Using the symbols you can find what is occurring in the heavens any day of the year. For example, it mentions that on January 25 Saturn and the Moon will be nearest to each other.

Instead of the seven wonders of the world, the Farmer's Almanac lists the three wonders of women—"first at fifteen, they wonder whom they shall take; second at twenty-five, they wonder whom they shall get; and third at thirty-five, they wonder who will take them." And, just for entertainment, it includes short poems like this one:

LOVE BY NUMBERS

2 lovers sat beneath the shade,
And 1 un2 the other said;
"How 14 8 that you be9
Have you smiled upon this suit of mine;
If 5 a heart it palps for you—
Thy voice is mu6 melody—
'Tis 7 to be thy loved 1, 2—
Say, oy nymph, will marry me!"
Then lisped she soft: "Why, 13ly!"

Aside from this humor in the publication, you can find such valuable information as daily weather predictions. Although forecasts are written in characteristic fashion ("Winter's worst week may test your physique" or "Foggy along coast, inland you'll roast."), the Almanac usually has a better batting average than our weather bureau. Last winter the Almanac predicted five of eight major snow storms around the Boston area in long range calculation, while the weatherman could do no better than four of eight in his daily predictions.

Not limited merely to humor and weather, the Almanac covers subjects from the time frog's gills disappear, to the postal rates. The 1957 issue has articles about the common mushroom, the honey bee, and an account of how Central and South America are expanding technologically. Numerous charts, tables, and unique advertisements also add to its versatility.

The real appeal of the Almanac, however, is to those who like to sit around a crackling fire on a cold winter's night relating yarns such as this—"An old picture represents a King sitting in state, with a label, 'I govern all,'—a bishop with a legend, 'I pray for all,'—a soldier with a motto, 'I fight for all,' and a farmer, drawing forth reluctantly a purse, with the superscription, 'I pay for all'!"

Coming: Insect Forecasts

Future crop losses due to insect damage may be minimized by insect population predictions.

By MARGARET E. SATURN '57

NEARLY every farmers listens to the weather forecast in the morning. How handy it would be if he could hear a predicion of what insects will be a problem for him this year. Some day, this may be possible.

DOCTOR J. A. Adams of the New York State Agricultural Experment Station at Poughkeepsie has been working on insect forecasting. He knows, for instance, that insect populations are dependent on many factors. Probably the most important single effect is the weather and especially the temperature. Generally, insects prefer warm or hot weather, while cold may kill them. Since they cannot heat their bodies, they grow colder and move more slowly as the thermometer drops.

Doctor Adams has done most of his work with insects which infest corn in the Hudson Valley. He has been quite successful in predicting the occurrence of Stewart's bacterial wilt, which is carried by the corn flea beetle. Records of the past nine years have shown that the amount of wilt is correlated with the sum of the average temperatures for December, January, and February in each year. If this sum is over 90, an outbreak can be expected. Professor Adams has surveyed the corn flea beetle population before and after planting time and has found that the actual abundance of insects has fitted the prediction well.

PRESENCE of diseases, and the enemies, and parasites among them are other factors which affect insect populations. The unusually large number of European corn borers in 1956 appeared to be due to a scarcity of natural parasites. Thus it is often necessary to determine the number of parasites, before making a prediction which will be reliable.

Corn earworms are another insect studied in 1956. Doctor Adams observed that many earworms hatch from eggs laid by moths which have flown north at night from other areas. These night flights are favored by above normal night temperatures such as in 1955. The unusually cool weather in 1956 reduced their numbers because low temperatures prevented the immature earworms from growing and also limited the night flights of the adult moths.

Doctor Adams gives his predictions directly to the Agricultural Extension Agents in the area. Then information is given to the farmers through the Extension Service.

Insect forecasting is still in the developmental stage. Doctor Adams' work is only one of the many such programs throughout the country. For example, on the western plains, grasshopper outbreaks are predicted by the use of temperature and rainfall data, and field surveys. However, most entomologists are rather cautious about making predictions because of the many factors which may determine the numbers of insects.

INSECT prediction may someday be able to help farmers prepare a spray schedule in advance. By knowing when and how much to spray, he will not only protect his crops from insect damage, but also save money.

A Glimpse at Some Bulletins

By ROBERT W. ADLER '58

IN last month's issue you read four Extension Bulletins reviews. We felt these were worthwhile, and will therefore continue reviewing bulletins as a feature of the magazine. Look for these reviews. They are written for you.

How to Make Cupboard Storage Devices

Cornell Extension Bulletin 859

By L. Leola Cooper

Even with today's push-button devices, the housewife still spends a lot of time in the kitchen. Handymen, here's your chance to ease the women's work of bending, reaching, and moving supplies. This bulletin tells how you can make the storage areas in your home more functional. All sorts of shelves, files, trays, and racks are described. The how-to-do-it descriptions are supplemented with drawings which will be very helpful in construction. No measurements are given. This makes it possible for you to make these devices fit your own needs. You certainly won't be sorry you picked up this one!

Refinishing Old Furniture

Cornell Extension Bulletin 295

By Florence E. Wright

I find there is nothing quite as satisfying as taking an old piece of furniture, removing the old finish, making the necessary repairs, and then refinishing it. How to clean, remove old finish, prepare for the new one, repair, and finally to apply the new surface, are covered in this bulletin. Different types of finish, and how to apply, are described. Much old furniture needs to be redone. But remember, if the finish on a valuable piece is in good condition, don't touch it. Its value would be largely destroyed. Take that old piece of furniture, and turn it into a thing of beauty.

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What is Home Economics?

Home economics defined to mean more than just sewing and cooking.

By DOROTHY L. KENYON '60

HOME economics today is more than just cooking and sewing, but not many people realize this. It was for this reason that a group of prominent leaders met recently to discuss this problem and decide a better method of interpreting home economics to others.

In Dean Canoyer's opening speech at this conference, she said, "The biggest stumbling block, as I see it, to an understanding of what is home economics at the college level is the name itself: Home Economics. And this is because of the generally limited interpretation of 'Home.' 'Home' is not only interpreted to be bound by the four walls of the house, with no connection with the local, state and national economy, but there is a rather general belief that the home pretty much can run itself or, at the most, it doesn't take a college education to run a home and family effectively. Thus, home economics is generally believed to be nothing more than cooking and sewing."

She went on to say that the primary function of home economics is, and has always been, to make use of the contributions of the sciences and arts in order to better society through more constructive family living. This conviction is based on the belief that today's homes are the foundation for tomorrow's leaders.

AS early as 1899 people had become concerned enough about home and family living to press for a study of home economics on a university level. A meeting was called at the Lake Placid Club, Lake Placid, New York. People from all over the country who were interested in promoting this new field of education were invited. They studied the economic and social problems of the home.

Dean Helen G. Canoyer

IN the years that followed, home economics has struggled to fit into the college and university organization, and has grown under the auspices of agriculture. It has expanded from a reading course for farmer's wives, to a diversified program in eight major fields:

Child Development and Family Welfare
Economics of the Household
Extension Teaching
Food and Nutrition
Home Economics Education
Housing and Design
Institution Management
Textiles and Clothing

Previous to the 1899 Lake Placid Conference, what was needed in performing the home economics job was dictated by society. Only the teaching of efficient performance of household skills was necessary. As changes have taken place over the years, the type of job required by home economics has also changed, outgrowing the sewing and cooking stage.

As Dr. Theodore C. Blegan, Dean of the Graduate School at the University of Minnesota, in a speech last year said: "No problem in home economics is not a strand in the social web of our life." Each one of us is influenced by home economics no matter how remote it may seem.

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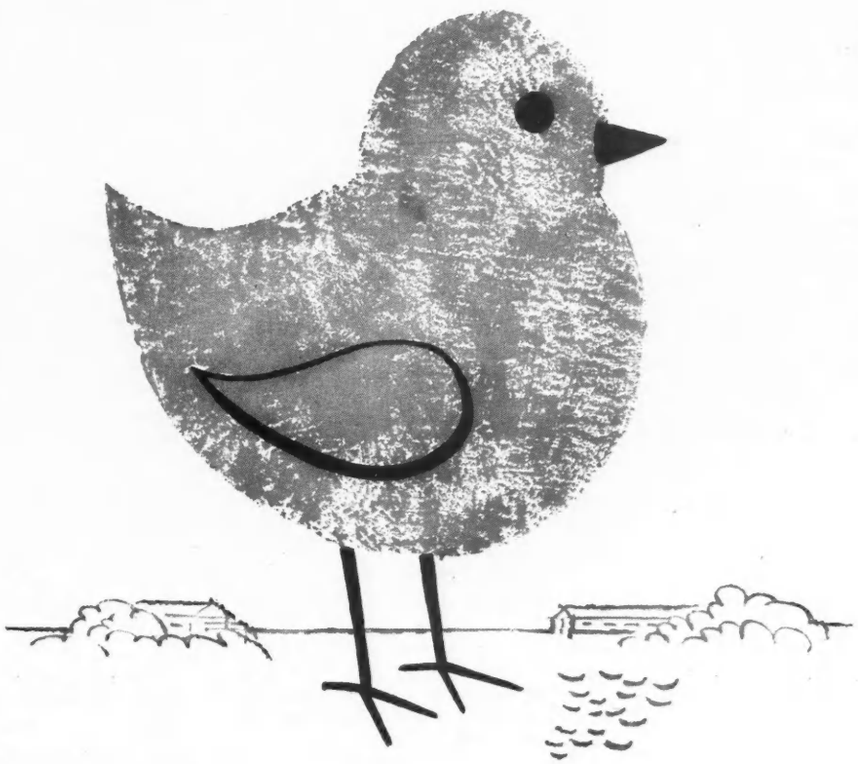

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Opportunities in Agriculture

The great need for agricultural engineers adds appeal to this field.

By DOUGLAS D. INNES '59

THIS question often arises: "Who are the agricultural engineering majors at Cornell?" We would probably first think of the men in the five-year professional curriculum, which is administered jointly by the Colleges of Agriculture and Engineering. But, there are other agricultural engineering students who are pursuing a four-year course. Some of these four-year majors take many of the same courses that the five-year men take. Others take few if any Engineering College courses.

The five-year program is more clearly defined than the four-year. In addition to some basic science courses such as chemistry, mathematics, and physics, and gentral studies like English and economics, the five-year major takes most of his courses in agriculture and engineering.

Civil, Mechanical, and Electrical Engineering courses in the five-year program include: mechanics, property of materials, thermodynamics, heat transfer, and electrical theory. The five-year curriculum also includes such courses in engineering application, as structural design, water control and management, hydraulics, surveying, power, and machinery design.

During the first four years of the program, the students are registered in the College of Agriculture. A six-week summer session, dealing with field problems, is required between the fourth and fifth year. In the fifth year the students register in the College of Engineering and pay the regular tuition for that college. Entrance requirements for this curriculum are the same as those for the College of Engineering. And, the degree of Bachelor of Agricultural Engineering is awarded after succesful completion of the program.

THE courses taken by the four-year major depend to a large extent on the individual's interests and what his advisor feels he is capable of doing. Varying from one student to the next, the four-year major takes courses in the College of Engineering that are related to what he intends to do after graduation.

By taking many of his electives in agricultural economics, the four-year student can prepare himself for a career in the farm machinery business. This may include distribution, sales, or his own equipment dealership. If he is especially interested in sales work, emphasis on extension teaching courses wil help him to be a more effective speaker, and a better salesman. Upon comepletion of the requirements of the College of Agriculture, the four-year agricultural engineer receives a Bachelor of Science degree.

Many of the agricultural engineering students choose one program over the other for specific reasons. This was shown in an interview with Kenneth Ryan '58, a four-year major, and Wilbur O'Donovan '58, of the five-year progarm.

When I asked Ken why he preferred the four-year over the five-year program, he replied, "The cost, the additional year in residence, plus the summer session helped me to decide that the four-year program was the best thing for me." He added that the extra year only helps you get your first job. Then you are on your own.

"I liked math and science in high school," Wilbur answered, "and I thought that agricultural engineering could combine my academic interests with my desire to live in the country. The five-year program involves more theory than does the four-year plan. This theory is essential to many phases of agricultural engineering, and the only chance to get it is in school."

When queried about the type of job that each program prepares the student for, Ken replied, "If you are interested in a job in the design of equipment and structures, then you need the five-year program. My own interest is in sales enginering for a large farm equipment company. And, for this type of work, and other jobs like field-testing, the four-year program is sufficient. If after graduation you want to become a professional engineer, you can go to graduate school for a master's degree in engineering."

"I felt that the five-year program would prepare me to be an engineer," Wilbur added, "while the four-year curriculum prepares the student to be an extension worker, or a salesman. Although the demand and opportunities in industry for well-trained agricultural engeneers is great, my interest lies in non-industrial field work."

These men, as well as the other agriculltural engineering students at Cornell, can emphasize one of the five broad classifications in the field. The first, Power and Machinery, includes the design, development, demonstration, and sale of agricultural equipment.

THE next, Soil and Water Management, deals with such things as the building of terraces, dams, and diversion ditches.

Agricultural Processing, the third classification, is associated with the storage and preservation of agricultural products. With this training a graduate can install cold storage units, or design food processing plants.

The fourth classification is Rural Electrification, and the fifth is Farm Structures. Structures includes the design and construction of everything from a dairy barn to a new feeder.

Agricultural engineering graduates can work in the farm equipment industry, or in the food processing and marketing industry. Also, they may work for public service utilities, or in research and extension for colleges or governmental agencies. Whatever the job may be, well trained agricultural engineers are scarce, and the demand for them is great.

Agriculture is the largest industry in the United States. Like most other industries, it has an urgent need for more engineers. Salaries are good, and opportunities for advancement are almost unlimited. If your interest in agriculture is coupled with ability in math and science, agricultural engineering may be just the vocation for you.

Foreign Students

(*from page 4*)

A full solution to the entire Middle East question is almost as difficult to reach as the problem is complex. Emanuel, of the Gold Coast, had this point, "The powers concerned should be called together by the U.N., and the United States, as the leader of peace, should act as moderator." Herb also looked for the U.N. to work out a solution, but he was only dimly hopeful that any lasting results could be achieved until Egypt was rid of Nasser. "Nasser is hurting Egypt; he is hurting the entire world."

A number of interesting related points were brought up in the interviews. Martin emphasized that Egypt's arms deal with Russia was one of necessity, not of choice, since Egypt could not get arms from the West. "But," he said, "I do not think that there is any great tendency of the Arab lands to become Communist states. Talking about the role of the United States in the crisis, Mike said that the bungling of our Secretary of State helped to bring the Middle East to the point of deterioration it now finds itself in. On a different point, Mike wondered if Afro-Asians were really convinced of the sincerity of the United States when she claimed to be against the Anglo-French venture. "I am tempted to question her sincerity, because United States capital in the area parallels the interests of English and French capital there."

MY interview with Martin closed on a point which is both an excellent summary and also a guideline. He said, "If diplomatic action continues to be concerned primarily with national pride, trying to impress the world with power and greatness, then the issues which must be discussed will be forgotten, and peace will be far away."

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By Michael Malison, Comptroller Empire Livestock Marketing Cooperative

Financing and Record Keeping

Mr. Malison

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Swamps and Wildlife
(*from page 5*)

River will also be harmful to shallow cover areas along it.

Suburban encroachment on Long Island is causing the filling in of New York's most valuable wetlands for the development of new housing, airfield and sewage facilities.

And finally, the increased demand for muck soils used in truck farming may eventually cause total destruction of valuable breeding grounds in the southern Ontario region.

The question now arises, "What is being done to solve this problem of Progress versus Preservation?"

A recent survey by the FWS revealed that at least 7.5 million more acres will be needed for government refuges in order to alleviate the worst effects of drought and draining of wetlands. This addition to the five million acres already under refuge control, however, will not be any where near an adequate amount. Three-fourths of our waterfowl will still be dependent on privately controlled wetlands, which may still be endangered.

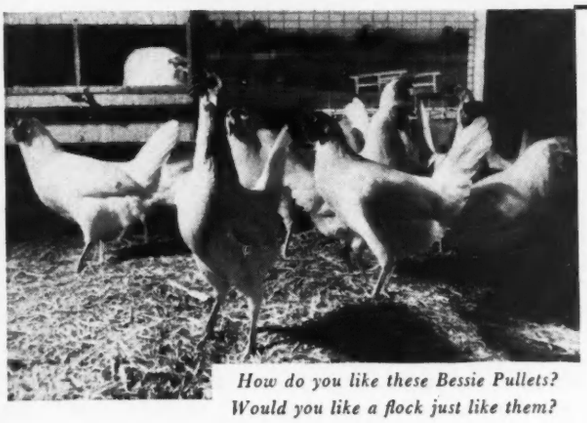
This is where state programs come in. In New York, the State Conservation department is developing one of the best wetland salvation programs in the country. Nineteen large refuges have already been created, many more small marshes are being built or imimproved,and wildlife species from other areas are being introduced. At the same time, private owners are encouraged to maintain and improve their own wetlands. Farmers' stock ponds and reservoirs, for instance, can double as wildlife habitat with little or no extra expense. Flood control, drainage and other land use agencies are asked to cooperate with the department to minimize damage and improve wetlands under their control.

As Wehrein in his book "Land Economics" stated, "Land policies must be based upon nature's laws as well as the economic drives of man. Too often the conquest of nature benefiting immediate generations has resulted in the conquest of man by the natural forces operating into eternity."

Only a modern enlightened people can appreciate the need for protecting our wildlife resources. The success of the conservation programs will depend on the education of land owners and the general public in conservation methods and their benefits. The result will be a priceless guarantee—a continuous and abundant wildlife for the enjoyment of all.

HEALTHY CHICK NEWS

JANUARY 1957



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How to Run a "Split-Flock" Test:

If you plan to run a split-flock test I suggest that you get both strains of day-old chicks the same day. Give both strains the same kind of quarters, heat, feed, etc. You may not agree with me, but I believe it best to keep the two strains separate right from day-old because some strains are much more vicious and cannibalistic than others.

One strain should be carefully toe-marked so both groups can be identified if they become accidentally mixed together.

Obviously, both strains should be simultaneously housed in similar laying pens with equal floor space, water troughs, mash hoppers, feed, lights, etc. Put lights on pullets as soon as you house them and push for top lay. I hope that all birds you test make you top profits.

How to Test Babcock Bessies

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News from Saturn

By MARGARET E. SATURN '57

THIS month we are starting a new column which features research done by the Colleges of Agriculture and Home Economics. Since we feel that few students know of the experiments done both on the campus and at the Geneva Experiment Station, we will review some of the most interesting and significant work.

Miniature silos wouldn't be very useful on the average farm, but a Cornell professor finds them helpful in his research.

Professor R. B. Musgrave, of the agronomy department, and graduate student Donald Baker are attempting to determine whether ear corn silage would be cheaper than dry grain mixtures for New York State dairy farms. The 63 experimental silos, are made from Navy gun powder cans, and each one contains a different moisture content or chopping length of ear corn silage. The Professor hopes to determine how moisture and chopping contribute to silage spoilage.

DR. F. C. Steward, Professor of Botany, has received a $4500 Damon Runyon Cancer Fund grant to supplement his research on cell growth which is relevant to tumorous and cancerous growths.

Dr. Steward is attempting to explore the biochemical causes of cell growth, and isolate the chemicals which control this process. From this work it may be possible to develop methods of controlling cell growth in both plants and animals.

Cucumber seedlings are serving as "guinea pigs" for Geneva experiment workers. They are used to determine whether young stone fruit trees are virus free or not.

Cucumber cotyledons are inoculated with leaf juice exaracts of the fruit trees to be tested. If viruses are present in the leaf juice, symptoms appear on the host cucumber plants within five to eight days.

This new method is much faster and easier than previous ones. It appears to be very reliable for many commercial fruit varieties, including Montmorency sour cherry, several sweet cherry varieties, peaches, and most plums.

Cabbage yellows fungus may soon be less of a problem to New York State broccoli and cauliflower farmers. Tests at Geneva have screened out varieties of these two vegetables which can be grown on yellows infested soil.

Early Snowball cauliflower, for example, has only 10 percent infestation as compared to 50 to 75 percent in other varieties.

Fruit breeders at Geneva now have developed seedless grapes which are reasonably hardy under New York State conditions. Four selections have been obtained from a cross between Sultania (know as Thompson Seedless in California) and Ontario, a very early green New York grape.

The new grapes are similar to the green Thompson Seedless ones, which are found in eastern markets during the early fall.

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